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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/623,546	12/11/2000	Stig Andersson	SG 00318	4814

7590 03/13/2003

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EXAMINER

LEE, EDMUND H

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 03/13/2003

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/623,546

Applicant(s)

ANDERSSON, STIG

Examiner

EDMUND H LEE

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) 18, 19, 23, 24 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-17, 20-22 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. The request filed on 8/26/02 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/623546 is acceptable and a CPA has been established. An action on the CPA follows.
2. Claims 18-19, 23-24, and 26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 14.
3. Applicant's election without traverse of claims 14-17, 20-22, and 25 in Paper No. 14 is acknowledged.
4. Claims 14-17, 20-22, and 25 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The requirement that the shell must reflect light in all direction is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). It is not enough to recite in claim 14, Ins 2-3 that the shell is capable of reflecting light in all directions. The claimed invention must recite that the shell reflects light in all directions.
5. Claims 14-17, 20-22, and 25 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The use of an adhesive that attaches to the plastic at the same time as it shall be able to bind to the pearls is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). It is not

enough to recite in claim 14, Ins 10-11 that the adhesive is capable of adhering to the pearls as well as the plastic sheet. See pg 4, Ins 6-10 of the instant specification.

6. Claims 14-17, 20-22, and 25 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The use of a suspension that has a suitable consistency so that the pearls of microscopic size will be transferred to the plane sheet by means of a known technique in the form of screen printing is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Claim 14 does not recite the above critical/"must" limitation. See pg 4, Ins 16-21 of the instant specification.

7. Claims 14-17, 20-22, and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "with the capability of reflecting light in all directions" (cl 14, Ins 2-3) is indefinite because it is unclear whether or not light is reflected.

The phrase "said mixture" (cl 14, ln 7; cl 15, ln 1) lacks antecedent basis in the claim.

The phrase "said adhesive transparent substance being capable of adhering" (cl 14, Ins 10-11) is indefinite because it is unclear whether or not the substance adheres to the pearls and the plastic sheet.

The phrase "said reflecting layer of glass or pearls" (cl 17, Ins 2-3) lacks antecedent basis in the claim.

The phrase "said layer of transparent plastic" (cl 21, lns 1-2) lacks proper antecedent basis in the claim.

The phrase "said transparent plastic layer" (cl 21, lns 2-3) lacks proper antecedent basis in the claim.

Clarification and/or correction is required.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 14-17, 20-22, and 25 rejected are under 35 U.S.C. 103(a) as being unpatentable over Mori (USPN 6221496) in view of JP 403130153A and Jonnes (USPN 3785719). In regard to claim 14, Mori teaches the basic claimed process including a method of manufacturing a retroreflective sheet that can be used during molding operations (col 1, lns 4-20; fig 1); and forming a retroreflective sheet comprising glass microspherical lens with a diameter between 30 micrometers to 100 micrometers, a transparent anchor layer, and a plane sheet of transparent plastic (col 3, lns 15-61; fig 1). However, Mori does not teach a method of manufacturing a retroreflecting shell having a curved or irregular surface with the capability of reflecting in all directions; the step of mixing; the step of transferring; and subjecting a retroreflecting sheet to vacuum forming thereby shaping the sheet into a shape corresponding to a curved or irregular surface. JP 403130153A teaches forming a retroreflective layer by a coating method (abstract); and transferring a mixture of glass beads and resin onto a substrate

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(abstract; fig 1)--as a note, it is inherent that the mixture of resin and glass beads was formed by mixing the resin and glass beads together. Since Mori and JP 403130153A are analogous with respect to retroreflective layers, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the reflecting layer of Mori to the clear and support layers of Mori by the steps of JP 403130153A, i.e., mixing and transferring, in order to efficiently form a reflecting layer. Jonnes teaches a method of manufacturing a retroreflecting shell having a curved or irregular surface with the capability of reflecting in all directions (col 3, lns 1-20; figs 4 and 5); and subjecting a retroreflecting sheet to vacuum forming thereby shaping the sheet into a shape corresponding to a curved or irregular surface (col 3, lns 1-20; figs 4 and 5). Since Mori and Jonnes are analogous with respect to molding articles having a retroreflecting layer thereon, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the retroreflective sheet of Mori in the process of Jonnes in order to form a reflective article having good reflectivity even after molding. In regard to claims 15-17, 20-22, and 25, Mori teaches applying a transparent plastic to the other side of the reflecting layer of glass or plastic pearls (col 3, lns 15-60; col 4, lns 25-55; fig 1); and using PVC as the transparent plastic (col 3, lns 15-60; fig 1). However, Mori does not teach transferring the mixture by screen printing; curing the adhesive substance before vacuum forming; high-frequency welding the plastic layer to the reflecting layer; using lacquer as the adhesive substance; and applying a layer of transparent dye adjacent the plane sheet prior to vacuum forming. In regard to transferring the mixture by screen printing, such is well-known in the art in order to

accurately transfer a mixture to substrate. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to transfer the mixture of Mori (modified) by screen printing in order to mold a higher quality article. In regard to curing the adhesive substance before vacuum forming, such is well-known in the molding art in order to prevent damage to an insert. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to cure the adhesive substance of Mori prior to vacuum forming in order to prevent damage to the sheet of Mori. In regard to high-frequency welding the plastic layer to the reflecting layer, such is a well-known method of bonding two preforms. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use high-frequency welding to bond the plastic layer and reflective layer of Mori in order to ensure a proper and strong bond. In regard to using lacquer as the adhesive substance, such is a mere obvious matter of choice dependent on the desired final product and material availability and of little patentable consequence to the claimed process since it is not a manipulative step or feature of the claimed process. Further, lacquer is well-known in the molding art as an effective adhesive. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use lacquer as the adhesive substance of Mori in order to effectively bond the beads of Mori to the plane sheet. In regard to applying a layer of transparent dye adjacent the plane sheet prior to vacuum forming, such is well-known in the art in order to create a colored effect. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention

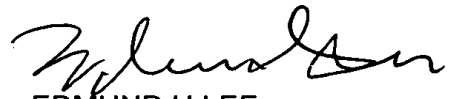
was made to add a layer of transparent dye adjacent the plane sheet of Mori in order to give the roadway lane delineator of Mori (modified) a colored appearance.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Engler et al (USPN 6383619) teach a method of manufacturing reflective film. Short et al (USPN 4976896) teach vacuum forming particle filled laminates. Crescentini (USPN 6038704) teaches thermoforming helmets.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDMUND H LEE whose telephone number is 703.305.4019. The examiner can normally be reached on MONDAY-THURSDAY FROM 9AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAN H SILBAUGH can be reached on 703.308.3829. The fax phone numbers for the organization where this application or proceeding is assigned are 703.305.7718 for regular communications and 703.305.3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0661.


EDMUND H LEE
Examiner
Art Unit 1732
3/10/03

EHL
March 10, 2003